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// Computer Program Listing Appendix Under 37 CFR 1.52(e)
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procedure ReflectionReader.ReadPackage(Package: System.Type; Model:
TMoldModel);
var
  attrs: array of Attribute;
  i: integer;
  UMLAttr: UmlMetaAttributeAttribute;
  TV: UmlTaggedValueAttribute;
  nestedClasses: array of System.Type;
begin
  attrs := Attribute.GetCustomAttributes(Package,
  typeof(UmlMetaAttributeAttribute));
  for i := 0 to Length(attrs)-1 do
  begin
    UMLAttr := UmlMetaAttributeAttribute(attrs[i]);
    if UMLAttr.Name = 'ownedElement' then // do not localize
      GetEnsuredClass(System.Type(UMLAttr.Value), Model)
    else
      ;
    end;
  attrs := Attribute.GetCustomAttributes(Package,
  typeof(UmlTaggedValueAttribute));
  for i := 0 to Length(attrs)-1 do
  begin
    TV := UmlTaggedValueAttribute(attrs[i]);
    if TV.Tag = TAG_REGIONDEFINITIONS then
      Model.BoldTVByName[TAG_REGIONDEFINITIONS] :=
      Model.BoldTVByName[TAG_REGIONDEFINITIONS] + TV.Value;
    end;
    // loop through elements that have no natural representation in code
    nestedClasses := Package.GetNestedTypes;
    for i := 0 to Length(nestedClasses)-1 do
      EnsureElement(nestedClasses[i], Model);
    Model.LoopBackIndexesValid := true;
  end;
procedure ReflectionReader.ReadClassUMLAttributes(c: System.Type;
  aClass: TMoldClass);
var
  attrs: array of Attribute;
  i: integer;
  UMLAttr: UmlMetaAttributeAttribute;
begin
  attrs := Attribute.GetCustomAttributes(c,
  typeof(UmlMetaAttributeAttribute));
  for i := 0 to Length(attrs)-1 do
  begin
    UMLAttr := UmlMetaAttributeAttribute(attrs[i]);
    if UMLAttr.Name = 'constraint' then // do not localize
      aClass.Constraints.Add(string(UMLAttr.Value))
  end;
end;

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else
;
end;
end;
function ReflectionReader.ConvertClass(c: System.Type; Model:
TMoldModel): TMoldClass;
var
pi: array of PropertyInfo;
aClass: TMoldClass;
i: Integer;
ElementAttr: UmlElementAttribute;
begin
aClass := TMoldClass.Create(Model, c.Name);
ElementAttr := UmlElementAttribute(Attribute.GetCustomAttribute(c,
typeof(UmlElementAttribute)));
if assigned(ElementAttr) and (ElementAttr.MetaType =
'AssociationClass') then // do not localize
  aClass.Association := GetEnsuredAssociation(c, Model);
ConvertElement(c, aClass);
ReadClassUMLAttributes(c, aClass);
aClass.IsAbstract := c.IsAbstract;
aClass.SuperClass := GetEnsuredClass(c.BaseType, Model);
aClass.ObjectType := c;
pi := c.GetProperties(BindingFlags(54) {BindingFlags.Instance |
BindingFlags.Public | BindingFlags.NonPublic |
BindingFlags.DeclaredOnly});
for i := 0 to Length(pi)-1 do
begin
  if assigned(Attribute.GetCustomAttribute(pi[i],
typeof(UmlElementAttribute))) then
    ConvertProperty(pi[i], aClass);
end;
result := aClass;
end;
function ReflectionReader.ConvertProperty(p: PropertyInfo; aClass:
TMoldClass): TMoldMember;
var
RelatedClass: TMoldClass;
aRole: TMoldRole;
anAttr: TMoldAttribute;
CollectionAttr: UmlCollectionAttribute;
ElementAttr: UmlElementAttribute;
IsRole: Boolean;
begin
IsRole := false;
RelatedClass := GetEnsuredClass(p.PropertyType, aClass.Model);
if not assigned(RelatedClass) then
begin
  CollectionAttr :=
UmlCollectionAttribute(Attribute.GetCustomAttribute(p.PropertyType,

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typeof(UmlCollectionAttribute)));
  if assigned(CollectionAttr) then
    RelatedClass := GetEnsuredClass(CollectionAttr.ElementType,
aClass.Model);
  if not assigned(RelatedClass) then
    begin
      ElementAttr := UmlElementAttribute(Attribute.GetCustomAttribute(p,
typeof(UmlElementAttribute)));
      IsRole := assigned(ElementAttr) and (ElementAttr.MetaType =
'AssociationEnd');
    end;
  end;
end;
```